

Automation Transformers - Non-Ventilated 50 VA to 45 kVA

SolaHD encapsulated transformers are rated for hazardous locations as well as harsh industrial environments. Encapsulation and rugged UL Listed/NEMA Type 3R enclosures protect the transformer from dust, moisture, and provides extra shock and vibration resistance. SolaHD transformers fully comply with the latest edition of the National Electrical Code for Class I, Division 2, Group A, B, C and D locations when installed in compliance with NEC 501.100 (B).

Features

Single Phase: .05 – .250 kVA

- UL Listed/NEMA Type 3R non encapsulated enclosure for indoor and outdoor service
- Low temperature rise, UL Class I30 °C insulation system, 80 °C temperature rise under full load
- Conduit knockouts for side entry into wiring compartment
- Copper lead wire terminations

Single Phase: 0.500 – 25 kVA

Three Phase: 3 – 45 kVA

- Available as standard in Cold Rolled Steel or Painted Stainless Steel
- UL Listed/NEMA Type 3R encapsulated enclosure for indoor and outdoor service
- Electrostatically shielded for quality power on sizes 1 kVA and larger
- UL Class 200°C insulation system, 115°C temperature rise under full load
- Conduit knockouts for side entry into wiring compartment (Type 3R versions only)
- Copper lead wire terminations
- .500 - 45 kVA units are encapsulated with electrical grade silica and epoxy for industrial applications

Related Products

- Some SolaHD DC power supplies are available with Class I, Division 2 ratings or encapsulation.
- Surge Protective Devices



Certifications and Compliances

All Models

- cULus Listed: E25872, E77014
 - UL 1561 or UL 5085-1, UL 5085-2
 - CSA C22.2 No. 47 or No. 66
 - RoHS Compliant

Group 5, Export Models

- CE Low Voltage Directive
 - IEC 61558-1, IEC 61558-2-4

Accessories and Optional Design Styles

- Other enclosure styles available (contact Technical Support for details):
 - 316 Stainless Steel
 - Copper Wound designs
- UL Listed/NEMA Type 4/12 or 4X Encapsulated Enclosures
- Low temperature designs available
- cULus Listed E361435 transformers for Class I, Division 2/Zone 2 hazardous locations are available as custom designs.

Note: Weights and dimensions may change and should not be used for construction purposes.

Selection Table: Single Phase

Group 1: 240 x 480 Primary, 120/240 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ² | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-------------------------|--|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| Non-Encapsulated | | | | | | | | | | |
| .050 | HS1B50 | N/A | 6.00 (152.4) | 4.00 (101.6) | 3.00 (76.2) | 3.00 (1.36) | 2 | 15 | .208/.104 | 0.416/0.208 |
| .075 | HS1B75 | | 6.00 (152.4) | 4.00 (101.6) | 3.00 (76.2) | 3.00 (1.36) | 2 | 15 | .312/.156 | 0.625/0.312 |
| .100 | HS1B100 | | 6.00 (152.4) | 4.00 (101.6) | 3.00 (76.2) | 4.00 (1.81) | 2 | 15 | .417/.208 | 0.833/0.417 |
| .150 | HS1B150 | | 8.00 (203.2) | 4.00 (101.6) | 4.00 (101.6) | 5.00 (2.27) | 2 | 15 | .625/.313 | 1.25/.625 |
| .250 | HS1B250 | | 8.00 (203.2) | 4.00 (101.6) | 4.00 (101.6) | 8.00 (3.63) | 2 | 15 | 1.04/.512 | 2.08/1.04 |
| Encapsulated | | | | | | | | | | |
| 0.5 | HS1F500B | HSP1F500B | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 22.0 (9.98) | 3 | 15 | 2.08/1.04 | 4.16/2.08 |
| 0.75 | HS1F750B | HSP1F750B | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 27.0 (12.25) | 3 | 15 | 3.13/1.56 | 6.25/3.13 |
| 1 | HS1F1BS | HSP1F1BS | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 28.0 (12.70) | 3 | 16 | 4.17/2.08 | 8.33/4.17 |
| 1.5 | HS1F1.5AS | HSP1F1.5AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 38.0 (17.24) | 4 | 16 | 6.25/3.13 | 12.5/6.25 |
| 2 | HS1F2AS | HSP1F2AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 45.0 (20.42) | 4 | 16 | 8.33/4.17 | 16.7/8.33 |
| 3 | HS5F3AS | HSP5F3AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 55.0 (24.95) | 4 | 17 | 12.5/6.25 | 25.0/12.5 |
| 5 | HS5F5AS | HSP5F5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 131.0 (59.42) | 4 | 17 | 20.8/10.4 | 41.6/20.8 |
| 7.5 | HS5F7.5AS | HSP5F7.5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 155.0 (70.31) | 4 | 18 | 31.3/15.6 | 62.5/31.3 |
| 10 | HS5F10 AS | HSP5F10 AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 166.0 (75.30) | 4 | 18 | 41.7/20.8 | 83.3/41.7 |
| 15 | HS5F15AS | HSP5F15AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 549.0 (249.02) | 4 | 18 | 62.5/31.2 | 125.0/62.5 |
| 25 | HS5F25 AS | HSP5F25 AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 637.0 (288.94) | 4 | 18 | 104.0/52.0 | 208.0/104.0 |

Group 2: 600 Volt Primary, 120/240 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ² | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-------------------------|--|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| Non-Encapsulated | | | | | | | | | | |
| .100 | HS10B100 | N/A | 6.00 (152.4) | 4.00 (101.6) | 3.00 (76.2) | 4.00 (1.81) | 2 | 21 | 0.167 | .833/.417 |
| .150 | HS10B150 | | 8.00 (203.2) | 4.00 (101.6) | 4.00 (101.6) | 5.00 (2.27) | 2 | 21 | 0.25 | 1.25/.625 |
| .250 | HS10B250 | | 8.00 (203.2) | 4.00 (101.6) | 4.00 (101.6) | 8.00 (3.63) | 2 | 21 | 0.417 | 2.08/1.04 |
| Encapsulated | | | | | | | | | | |
| .500 | HS10F500B | HSP10F500B | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 22.0 (9.98) | 3 | 21 | 0.833 | 4.16/2.08 |
| .750 | HS10F750B | HSP10F750B | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 23.0 (10.43) | 3 | 21 | 1.25 | 6.25/3.13 |
| 1 | HS10F1BS | HSP10F1BS | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 28.0 (12.70) | 3 | 21 | 1.67 | 8.33/4.17 |
| 1.5 | HS10F1.5AS | HSP10F1.5AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 38.0 (17.24) | 4 | 21 | 2.5 | 12.5/6.25 |
| 2 | HS10F2AS | HSP10F2AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 60.0 (27.22) | 4 | 21 | 3.33 | 16.7/8.33 |
| 3 | HS10F3AS | HSP10F3AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 66.0 (29.94) | 4 | 22 | 5.0 | 25.0/12.5 |
| 5 | HS10F5AS | HSP10F5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 100.0 (45.36) | 4 | 22 | 8.3 | 41.6/20.8 |
| 7.5 | HS10F7.5AS | HSP10F7.5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 135.0 (61.23) | 4 | 22 | 12.5 | 62.5/31.3 |
| 10 | HS10F10 AS | HSP10F10 AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 150.0 (68.04) | 4 | 22 | 16.7 | 83.3/41.7 |

Notes:

1. Design Styles and Electrical Connections can be found at the end of the Non-Ventilated Distribution Transformers section.
2. Contact Technical Services for other enclosure types.

Selection Table: Single Phase

Group 3: 120/208/240/277 Volt Primary, 120/240 Secondary, 60 Hz

| kVA | Catalog Number Group 1 Rolled Steel | Catalog Number Group 2 Stainless Steel ³ | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps @ 277 V | Secondary Amps |
|---------------------|-------------------------------------|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|----------------------|----------------|
| Encapsulated | | | | | | | | | | |
| 1 | HS12F1BS | HSP12F1BS | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 29.0 (13.15) | 3 | 19 | 3.6 | 8.33/4.17 |
| 1.5 | HS12F1.5AS | HSP12F1.5AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 40.0 (18.14) | 4 | 20 | 5.4 | 12.5/6.25 |
| 2 | HS12F2AS | HSP12F2AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 60.0 (27.22) | 4 | 20 | 7.2 | 16.7/8.33 |
| 3 | HS12F3AS | HSP12F3AS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 66.0 (29.94) | 4 | 20 | 10.8 | 25.0/12.5 |
| 5 | HS12F5AS | HSP12F5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 104.0 (47.17) | 4 | 20 | 18.0 | 41.6/20.8 |
| 7.5 | HS12F7.5AS | HSP12F7.5AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 135.0 (61.23) | 4 | 20 | 27.1 | 62.5/31.3 |
| 10 | HS12F10 AS | HSP12F10 AS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 156.0 (70.76) | 4 | 20 | 36.1 | 83.3/41.7 |

Group 4: 190/200/208/220/380/400/415/440 Volt Primary, 110/220 Secondary, 50/60 Hz Copper wound 200/208/230/400/415/460 Volt Primary, 115/230 Secondary, 50/60 Hz Copper wound 208/240/415/480 Volt Primary, 120/240 Secondary, 60 Hz only Copper wound

| kVA | Catalog Number Group 1 Rolled Steel | Catalog Number Group 2 Stainless Steel ³ | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps ² | Secondary Amps |
|-----------------------------------|-------------------------------------|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|---------------------------|----------------|
| Encapsulated, Copper Wound | | | | | | | | | | |
| 1 | HS14F1BS | HSP14F1BS | 10.00 (254.0) | 6.00 (152.4) | 5.00 (127.0) | 34.0 (15.42) | 3 | 23 | 4.5/2.3 | 9.1/4.5 |
| 1.5 | HS14F1.5BS | HSP14F1.5BS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 40.0 (18.13) | 4 | 24 | 6.8/3.4 | 13.6/6.8 |
| 2 | HS14F2BS | HSP14F2BS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 60.0 (27.21) | 4 | 24 | 9.1/4.5 | 18.2/9.1 |
| 3 | HS14F3BS | HSP14F3BS | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 73.0 (33.11) | 4 | 24 | 13.6/6.8 | 27.3/13.6 |
| 5 | HS14F5BS | HSP14F5BS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 100.0 (45.36) | 4 | 24 | 22.7/11.4 | 45.5/22.7 |
| 7.5 | HS14F7.5BS | HSP14F7.5BS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 140.0 (63.50) | 4 | 24 | 34.1/17.0 | 68.2/34.1 |
| 10 | HS14F10BS | HSP14F10BS | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 175.0 (79.38) | 4 | 24 | 45.5/22.7 | 90.9/45.5 |

Group 5: Export 190/200/208/220/380/400/415/440 Volt Primary, 110/220 Secondary, 50/60 Hz Copper wound Export 200/208/230/400/415/460 Volt Primary, 115/230 Secondary, 50/60 Hz Copper wound Export 208/240/415/480 Volt Primary, 120/240 Secondary, 60 Hz only Copper wound



| kVA | Catalog Number Group 1 Rolled Steel | Catalog Number Group 2 Stainless Steel ³ | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps ² | Secondary Amps |
|-----------------------------------|-------------------------------------|---|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|---------------------------|----------------|
| Encapsulated, Copper Wound | | | | | | | | | | |
| 1 | HS14F1CS-CE | HSP14F1CS-CE | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 52.0 (23.6) | 4 | 24 | 4.5/2.3 | 9.1/4.5 |
| 1.5 | HS14F1.5CS-CE | HSP14F1.5CS-CE | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 55.0 (25.0) | 4 | 24 | 6.8/3.4 | 13.6/6.8 |
| 2 | HS14F2CS-CE | HSP14F2CS-CE | 12.00 (304.8) | 10.00 (254.0) | 7.00 (177.8) | 62.0 (28.1) | 4 | 24 | 9.1/4.5 | 18.2/9.1 |
| 3 | HS14F3CS-CE | HSP14F3CS-CE | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 142.0 (64.4) | 4 | 24 | 13.6/6.8 | 27.3/13.6 |
| 5 | HS14F5CS-CE | HSP14F5CS-CE | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 146.0 (66.2) | 4 | 24 | 22.7/11.4 | 45.5/22.7 |
| 7.5 | HS14F7.5CS-CE | HSP14F7.5CS-CE | 17.00 (431.8) | 14.00 (355.6) | 9.00 (228.6) | 175.0 (79.4) | 4 | 24 | 34.1/17.0 | 68.2/34.1 |

Notes:

- Design Styles and Electrical Connections can be found at the end of the Non-Ventilated Distribution Transformers section.
- Amperage calculated at 220/440 Volts on primary. UL Listed. 240 and 480 V not available at 50 Hz.
- Contact Technical Services for other enclosure types.

Selection Tables: Three Phase

Group A: 480 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ³ | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT1F3AS | HTP1F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 105.0 (47.63) | 4 | 27 | 3.6 | 8.3 |
| 6 | HT1F6AS | HTP1F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 27 | 7.2 | 16.6 |
| 9 | HT1F9AS | HTP1F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 250.0 (113.40) | 4 | 27 | 10.8 | 25.0 |
| 15 | HT1F15AS | HTP1F15AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 261.0 (118.39) | 4 | 27 | 18.1 | 41.7 |
| 30 | HT1F30 AS | HTP1F30 AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 696.0 (315.70) | 4 | 27 | 36.1 | 83.4 |
| 45 | HT1F45AS | HTP1F45AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 844.0 (382.83) | 4 | 27 | 54.2 | 125.0 |

Group B: 208 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ³ | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT3F3AS | HTP3F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 97.0 (44.00) | 4 | 26 | 7.2 | 8.3 |
| 6 | HT3F6AS | HTP3F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 26 | 14.4 | 16.6 |
| 9 | HT3F9AS | HTP3F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 256.0 (116.12) | 4 | 26 | 21.7 | 25.0 |

Group C: 480 Volt Δ Primary, 240 Volt Δ Secondary with 120 V reduced capacity center tap, 60 Hz ²

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ³ | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT5F3AS | HTP5F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 105.0 (47.63) | 4 | 28 | 3.6 | 7.2 |
| 6 | HT5F6AS | HTP5F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 28 | 7.2 | 14.4 |
| 9 | HT5F9AS | HTP5F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 250.0 (113.40) | 4 | 28 | 10.8 | 21.7 |
| 15 | HT5F15AS | HTP5F15AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 305.0 (138.35) | 4 | 28 | 18.1 | 36.1 |
| 30 | HT5F30 AS | HTP5F30 AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 698.0 (316.61) | 4 | 28 | 36.1 | 72.2 |
| 45 | HT5F45AS | HTP5F45AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 876.0 (397.35) | 4 | 28 | 54.2 | 108.3 |

Group D: 240 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ³ | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT6F3AS | HTP6F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 97.0 (44.00) | 4 | 25 | 7.2 | 8.3 |
| 6 | HT6F6AS | HTP6F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 25 | 14.4 | 16.6 |
| 9 | HT6F9AS | HTP6F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 256.0 (116.12) | 4 | 25 | 21.7 | 25.0 |

Notes:

1. Design Styles and Electrical Connections can be found at the end of the Non-Ventilated Distribution Transformers section.
2. Refer to *Capacity of Center Tap in Center Tap Delta Transformers* at the beginning of this section.
3. Contact Technical Services for other enclosure types.

Selection Tables: Three Phase

Group E: 480 Volt Δ Primary, 380Y/220 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ² | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT79F3AS | HTP79F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 121.0 (54.88) | 4 | 29 | 3.6 | 4.6 |
| 6 | HT79F6AS | HTP79F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 29 | 7.2 | 9.1 |
| 9 | HT79F9AS | HTP79F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 255.0 (115.7) | 4 | 29 | 10.8 | 13.6 |

Group F: 600 Volt Δ Primary, 208Y/120 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ² | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT7F3AS | HTP7F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 116.0 (52.62) | 4 | 30 | 2.9 | 8.3 |
| 6 | HT7F6AS | HTP7F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 30 | 5.8 | 16.6 |
| 9 | HT7F9AS | HTP7F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 225.0 (115.67) | 4 | 30 | 8.7 | 25.0 |

Group G: 208 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ² | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT84F3AS | HTP84F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 97.0 (44.00) | 4 | 31 | 8.3 | 3.6 |
| 6 | HT84F6AS | HTP84F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 31 | 16.6 | 7.2 |
| 9 | HT84F9AS | HTP84F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 256.0 (116.12) | 4 | 31 | 25.0 | 10.8 |

Group H: 240 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ² | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT85F3AS | HTP85F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 97.0 (44.00) | 4 | 32 | 7.2 | 3.6 |
| 6 | HT85F6AS | HTP85F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 32 | 14.4 | 7.2 |
| 9 | HT85F9AS | HTP85F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 256.0 (116.12) | 4 | 32 | 21.6 | 10.8 |

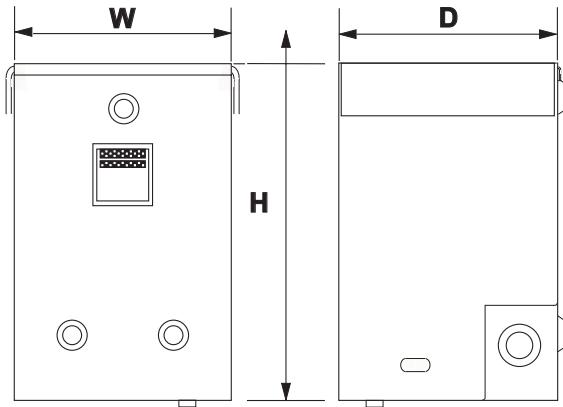
Group J: 480 Volt Δ Primary, 480Y/277 Secondary, 60 Hz

| kVA | Catalog Number Group I Rolled Steel | Catalog Number Group II Stainless Steel ² | Height in (mm) | Width in (mm) | Depth in (mm) | Approx. Ship Weight lbs (kg) | Design Style ¹ | Elec Conn ¹ | Primary Amps | Secondary Amps |
|-----|-------------------------------------|--|----------------|---------------|---------------|------------------------------|---------------------------|------------------------|--------------|----------------|
| 3 | HT81F3AS | HTP81F3AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 121.0 (54.88) | 4 | 29 | 3.6 | 3.6 |
| 6 | HT81F6AS | HTP81F6AS | 13.00 (330.2) | 16.00 (406.4) | 9.00 (228.6) | 150.0 (68.03) | 4 | 29 | 7.2 | 7.2 |
| 9 | HT81F9AS | HTP81F9AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 255.0 (115.7) | 4 | 29 | 10.8 | 10.8 |
| 15 | HT81F15AS | HTP81F15AS | 17.00 (431.8) | 20.00 (508.0) | 11.00 (279.4) | 261.0 (118.39) | 4 | 29 | 18.1 | 18.1 |
| 30 | HT81F30 AS | HTP81F30 AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 696.0 (315.70) | 4 | 29 | 36.1 | 36.1 |
| 45 | HT81F45AS | HTP81F45AS | 30.00 (762.0) | 29.00 (736.6) | 12.00 (304.8) | 844.0 (382.83) | 4 | 29 | 54.2 | 54.2 |

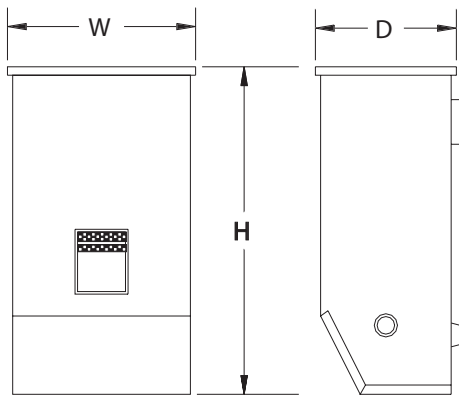
Notes:

1. Design Styles and Electrical Connections can be found at the end of the Non-Ventilated Distribution Transformers section.
2. Contact Technical Services for other enclosure types.

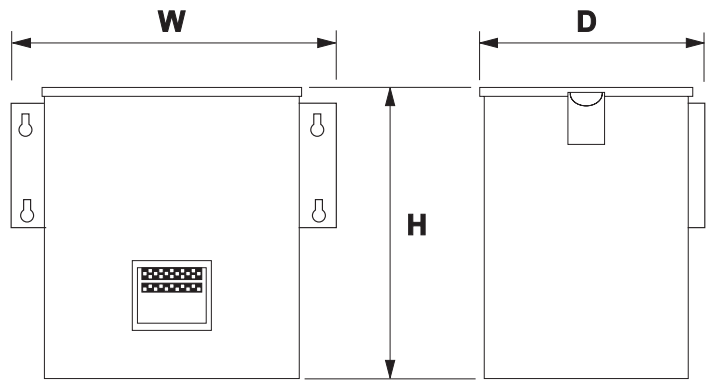
Design Styles



Style 2 - Non-Encapsulated

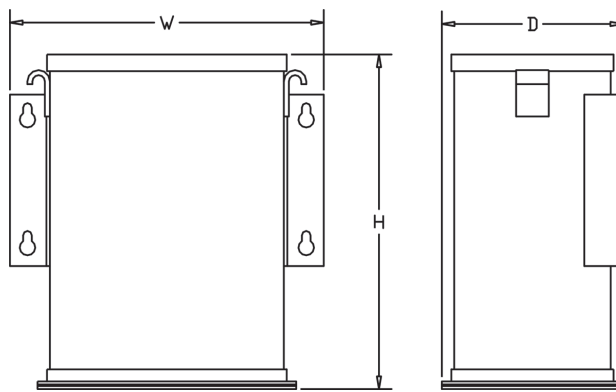


Style 3 - Encapsulated



Style 4 - Encapsulated

Customized Enclosures - Contact Technical Services



Style 5 - Encapsulated

Available for all encapsulated kVA sizes (For Type 4, 12 and 4X)

Electrical Connections (Single Phase)

240 X 480 Volt Primary
120/240 Volt Secondary
Taps: None

15

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 480 | H2 to H3 | H1 & H4 |
| 240 | H1 to H3 H2 to H4 | H1 & H4 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS1 Series

240 X 480 Volt Primary
120/240 Volt Secondary
Taps: None

16

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 480 | H2 to H3 | H1 & H4 |
| 240 | H1 to H3 H2 to H4 | H1 & H4 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS1 Series

240 X 480 Volt Primary
120/240 Volt Secondary
Taps: 2, 2½% FCAN & FCBN

17

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 504 | H4 to H5 | H1 & H8 |
| 492 | H3 to H5 | H1 & H8 |
| 480 | H3 to H6 | H1 & H8 |
| 468 | H2 to H6 | H1 & H8 |
| 456 | H2 to H7 | H1 & H8 |
| 252 | H1 to H5 H4 to H8 | H1 & H8 |
| 240 | H1 to H6 H3 to H8 | H1 & H8 |
| 228 | H1 to H7 H2 to H8 | H1 & H8 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS5 Series

240 X 480 Volt Primary,
120/240 Volt Secondary
Taps: 2, 2½% FCAN; 4, 2½% FCBN

18

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 504 | H5 to H6 | H1 & H10 |
| 492 | H4 to H6 | H1 & H10 |
| 480 | H4 to H7 | H1 & H10 |
| 468 | H3 to H7 | H1 & H10 |
| 456 | H3 to H8 | H1 & H10 |
| 444 | H2 to H8 | H1 & H10 |
| 432 | H2 to H9 | H1 & H10 |
| 252 | H1 to H6 H5 to H10 | H1 & H10 |
| 240 | H1 to H7 H4 to H10 | H1 & H10 |
| 228 | H1 to H8 H3 to H10 | H1 & H10 |
| 216 | H1 to H9 H2 to H10 | H1 & H10 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS5 Series

120/208/240/277 Volt Primary
120/240 Volt Secondary
Taps: None

19

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 277 | H2 to H3 | H1 & H6 |
| 240 | H2 to H3 | H1 & H5 |
| 208 | H2 to H3 | H1 & H4 |
| 120 | H1 to H3 H2 to H5 | H1 & H5 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS12 Series (1 kVA only)

\perp = Earth Ground

Note:

Connect the electrostatic shield to the equipment ground (green) or to both the equipment ground and the system ground (white). Specifications are subject to change without notice.

120/208/240/277 Volt Primary
120/240 Volt Secondary
Taps: None

20

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 277 | H4 to H5 | H1 & H8 |
| 240 | H3 to H6 | H1 & H8 |
| 208 | H2 to H7 | H1 & H8 |
| 120 | H1 to H6 H3 to H8 | H1 & H8 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS12 Series

Electrical Connections (Single Phase)

600 Volt Primary,
120/240 Volt Secondary
Taps: None

21

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 600 | | H1 & H2 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1, X2 & X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS10 Series

Note: 1 through 2 kVA units have electrostatic shielding.

190/200/208/220/380/400/415/440 Volt Pri.
110/220 Volt Secondary
Taps: None

24

| Primary Voltage | Interconnect | Connect Lines to |
|-----------------------------|---------------------------|------------------|
| 440/460/480 | H5 to H6 | H1 & H10 |
| 415 | H4 to H7 | H1 & H10 |
| 400/415 | H3 to H8 | H1 & H10 |
| 380/400 | H2 to H9 | H1 & H10 |
| 220/230/240 | H1 to H6, H5 to H10 | H1 & H10 |
| 208 | H1 to H7, H4 to H10 | H1 & H10 |
| 200/208 | H1 to H8, H3 to H10 | H1 & H10 |
| 190/200/208 | H1 to H9 H2 to H10 | H1 & H10 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 220/230/240 | X2 to X3 | X1 & X4 |
| 110,220/115, 230/120,240 | X2 to X3 X2 to \perp | X1, X2 & X4 |
| 110/115/120 | X1 to X3 X2 to X4 | X1 & X4 |

HS14 Series

600 Volt Primary
120/240 Volt Secondary
Taps: 2, 5% FCBN

22

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|---------------------------|------------------|
| 600 | H3 to H4 | H1 & H6 |
| 570 | H2 to H4 | H1 & H6 |
| 540 | H2 to H5 | H1 & H6 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 240 | X2 to X3 | X1 & X4 |
| 120-0-120 | X2 to X3 X2 to \perp | X1-X2-X4 |
| 120 | X1 to X3 X2 to X4 | X1 & X4 |

HS10 Series

190/200/208/220/380/400/415/440 Volt Pri.
110/220 Volt Secondary
Taps: None

23

| Primary Voltage | Interconnect | Connect Lines to |
|-----------------------------|---------------------------|------------------|
| 440/460/480 | H5 to H6 | H1 & H10 |
| 415 | H4 to H6 | H1 & H9 |
| 400/415 | H3 to H6 | H1 & H8 |
| 380/400 | H2 to H6 | H1 & H7 |
| 220/230/240 | H1 to H6 H5 to H10 | H1 & H10 |
| 208 | H1 to H6 H4 to H9 | H1 & H9 |
| 200/208 | H1 to H6 H3 to H8 | H1 & H8 |
| 190/200/208 | H1 to H6 H2 to H7 | H1 & H7 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 220/230/240 | X2 to X3 | X1 & X4 |
| 110,220/115, 230/120,240 | X2 to X3 X2 to \perp | X1, X2 & X4 |
| 110/115/120 | X1 to X3 X2 to X4 | X1 & X4 |

HS14F1BS

\perp = Earth Ground

Note:

Connect the electrostatic shield to the equipment ground (green) or to both the equipment ground and the system ground (white). Specifications are subject to change without notice.

Electrical Connections (Three Phase)

25
 240 Δ Volt Primary
 208Y/120 Volt Secondary
 Taps: 2, 5% FCBN

| Primary Voltage | Connect Taps | Connect Lines To |
|-------------------|--------------------|------------------|
| 240 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 228 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 216 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | | Connect Lines To |
| 208 | | X1, X2, & X3 |
| 120 | | X0, X1, X2, X3 |

HT6 Series

26
 208 Δ Volt Primary
 208Y/120 Volt Secondary
 Taps: 2, 5% FCBN

| Primary Voltage | Connect Taps | Connect Lines To |
|-------------------|--------------------|------------------|
| 208 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 198 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 187 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | | Connect Lines To |
| 208 | | X1, X2, & X3 |
| 120 | | X0, X1, X2, X3 |

HT3 Series

27
 480 Δ Volt Primary
 208Y/120 Volt Secondary
 Taps: 2, 5% FCBN

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|--------------------|------------------|
| 480 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 456 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 432 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | | Connect Lines to |
| 208 | | X1, X2, & X3 |
| 120 | | X0, X1, X2, X3 |

HT1 Series

28
 480 Δ Volt Primary
 240 Δ w/120 CT Volt Secondary
 Taps: 2, 5% FCBN

| Primary Voltage | Connect Taps | Connect Lines To |
|-------------------|--------------------|------------------|
| 480 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 456 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 432 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | Interconnect | Connect Lines To |
| 240 | | X1, X2, X3 |
| 120-0-120 | X6 to | X1-X6-X3 |

HT5 Series

29
 480 Δ Volt Primary
 380Y/220 Volt Secondary
 Taps: 2, 5% FCBN

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|--------------------|------------------|
| 480 | 1-H1 & 2-H2 & 3-H3 | H1, H2 & H3 |
| 456 | 4-H1 & 5-H2 & 6-H3 | H1, H2 & H3 |
| 432 | 7-H1 & 8-H2 & 9-H3 | H1, H2 & H3 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 380 | | X1, X2, X3 |
| 220 | | X0, X1, X2, X3 |

HT79 Series

= Earth Ground

Notes:

Connect the electrostatic shield to the equipment ground (green) or to both the equipment ground and the system ground (white). Specifications are subject to change without notice.

Electrical Connections (Three Phase)

30
600 Δ Volt Primary
208Y/120 Volt Secondary
Taps: 2, 5% FCBN

| Primary Voltage | Connect Taps | Line Leads |
|-------------------|--------------------|----------------|
| 600 | 1-H1 & 2-H2 & 3-H3 | H1, H2, H3 |
| 570 | 4-H1 & 5-H2 & 6-H3 | H1, H2, H3 |
| 540 | 7-H1 & 8-H2 & 9-H3 | H1, H2, H3 |
| Secondary Voltage | | Line Leads |
| 208 | | X1, X2, X3 |
| 120 | | X0, X1, X2, X3 |

HT7 Series

31
208 Δ Volt Primary
480Y/277 Volt Secondary
Taps: 2, 5% FCBN

| Primary Voltage | Connect Taps | Line Leads |
|-------------------|--------------------|----------------|
| 208 | 1-X1 & 2-X2 & 3-X3 | X1, X2, X3 |
| 198 | 4-X1 & 5-X2 & 6-X3 | X1, X2, X3 |
| 187 | 7-X1 & 8-X2 & 9-X3 | X1, X2, X3 |
| Secondary Voltage | | Line Leads |
| 480 | | H1, H2, H3 |
| 277 | | H0, H1, H2, H3 |

HT84 Series

32
240 Δ Volt Primary
480Y/277 Volt Secondary
Taps: 2, 5% FCBN

| Primary Voltage | Connect Taps | Line Leads |
|-------------------|--------------------|----------------|
| 240 | 1-X1 & 2-X2 & 3-X3 | X1, X2, X3 |
| 228 | 4-X1 & 5-X2 & 6-X3 | X1, X2, X3 |
| 216 | 7-X1 & 8-X2 & 9-X3 | X1, X2, X3 |
| Secondary Voltage | | Line Leads |
| 480 | | H1, H2, H3 |
| 277 | | H0, H1, H2, H3 |

HT85 Series

33
480 Δ Volt Primary
480Y/277 Volt Secondary
Taps: 2, 5% FCBN

| Primary Voltage | Interconnect | Connect Lines to |
|-------------------|--------------------|------------------|
| 480 | 1-H1 & 2-H2 & 3-H3 | H1, H2 & H3 |
| 456 | 4-H1 & 5-H2 & 6-H3 | H1, H2 & H3 |
| 432 | 7-H1 & 8-H2 & 9-H3 | H1, H2 & H3 |
| Secondary Voltage | Interconnect | Connect Lines to |
| 480 | | X1, X2, X3 |
| 277 | | X0, X1, X2, X3 |

HT81 Series

Notes:

Connect the electrostatic shield to the equipment ground (green) or to both the equipment ground and the system ground (white). Specifications are subject to change without notice.